

Post-salpingectomy Endometriosis

Sir,

Non-neoplastic lesions of the fallopian tube may pose diagnostic problems to the unaware, as many of them occur rarely.^[1] Endometrium located outside its normal location is called endometriosis. It may occur in fallopian tubes, ovaries, vagina, scar tissue, etc. The presence of endometrium in the fallopian tube is an entity that has many connotations. The present case reported highlights one such entity.

A 43-year-old lady presented to the gynaecological outpatient department for complaints of menorrhagia since 2 months. Her examination revealed an enlarged uterus. With a clinical diagnosis of fibroid uterus, a hysterectomy with bilateral salpingo oophorectomy was performed. Examination of the specimen received showed a bulky, irregular, bosselated uterus measuring 14 × 16.5 × 7.5 cm. The sectioned surface showed multiple intramural and subserosal fibroids, the largest measuring 5 cm in diameter. It was observed that she was tubectomized by the Pomeroy technique with a 2 cm gap in the midsegment of each tube. There was no application of cautery. The proximal stumps on both sides were 3 cm in length. A paratubal cyst of 2 cm diameter was seen on the left side. No significant pathological lesions were seen in both the ovaries. The tubes were sampled 1 cm proximal to the tubectomy stump on both sides.

On histopathological examination, the sections obtained from both the tubes showed total replacement of the epithelium of the endosalpinx by round to oval endometrial glands lined by tall columnar epithelium supported by short spindled stroma [Figure 1]. These glands accompanied by the stroma were also noted deeper in the myosalpinx [Figure 2] almost reaching the serosal surface [Figure 3]. The glands appeared to be functionally inactive, as no areas of recent or old hemorrhage were noted. The cyst around the tube showed a thin wall lined by flattened to low cuboidal epithelium consistent with a paratubal cyst. The endometrium showed morphology consistent with proliferative phase and leiomyomata were noted in the myometrium. The cervix was chronically inflamed with no dysplastic changes noted in the epithelium. A diagnosis of post-salpingectomy endometriosis of the fallopian tubes was made from the above conglomeration of findings.

The presence of endometrium in the fallopian tube

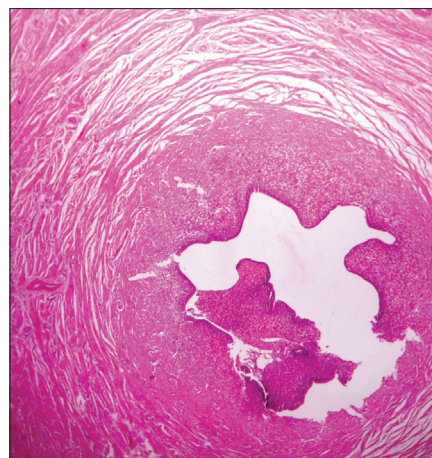


Figure 1: Endometrial colonization of the fallopian tube. H and E, ×100

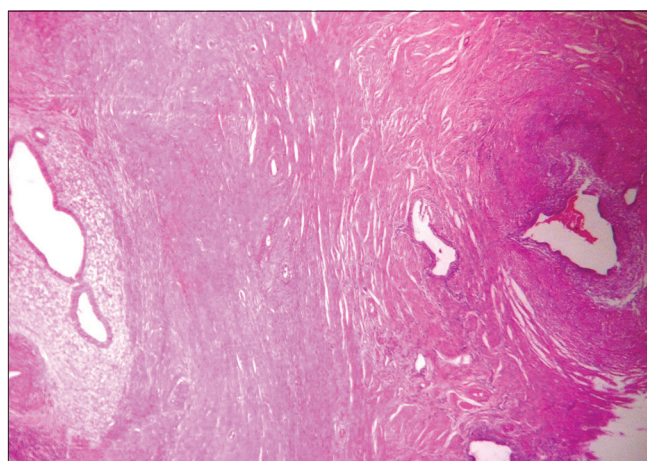


Figure 2: Non-functional endometrial glands and stroma in the myosalpinx. H and E, ×100

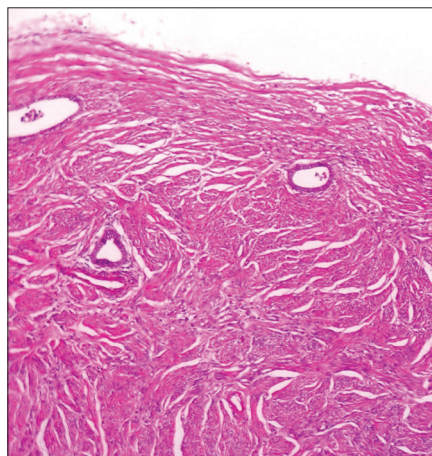


Figure 3: Endometrial glands and stroma in the subserosal region of the tube. H and E, ×400

can be seen in any one of the following three entities. In tubal endometriosis, there is serosal and sub-serosal endometriotic foci with evidence of endometriotic lesions elsewhere in the pelvis. There is usually no involvement

of the myosalpinx or the mucosa.^[2,3] In the isthmus and in the interstitium of the fallopian tube, endometrial tissue is noted. This is considered to be a normal morphologic variation. It represents a shift of junction between endometrium and fallopian tube mucosa and is called “endometrialization of the fallopian tube” by some authors.^[3] When this ectopic endometrial tissue causes luminal occlusion, an arbitrary term “endometrial colonisation” has been used.^[2] This may be a cause of infertility and tubal pregnancy.^[4]

Post-salpingectomy endometriosis is usually noted at the tip of the proximal stump, 1-4 years after tubal ligation. It is a lesion similar to the adenomyosis of the uterus with the extension of endometrial glands from the endosalpinx to the muscularis. It may be related to or associated with salpingitis isthmica nodosa. It constitutes around 20-50% of cases examined after tubal ligation. The chances of this being detected are higher especially if electrocautery is used in tubectomy, if the proximal stump is short and if the post-ligation interval is long.^[2,3,5,6]

Sampson had claimed that after partial salpingectomy for sterilization, the tubal epithelium sprouted from the cut ends and invaded the stump wall and the surrounding tissues. This misplaced tubal epithelium retained its original structure (endosalpingiosis) or underwent metaplasia (endometriosis).^[7-9] This concept of post-salpingectomy endosalpingiosis or endometriosis has been recently challenged by Stock. He concluded that endosalpingeal endometriosis of the proximal stump was due to repeated menstrual reflux rather than metaplasia of seeded or invading tubal mucosa.^[5,10]

The differential diagnosis includes salpingitis isthmica nodosa and primary adenocarcinoma of the fallopian tube. In salpingitis isthmica nodosa, muscularis is greatly thickened with the tubal lumen apparently been split into numerous small canals scattered throughout the muscularis at various distances between the lumen proper and the serosa. The lining epithelium is of the tubal type with striking absence of the characteristic endometrial stroma around the glands that is seen always in endometriosis. Areas of recent or old hemorrhages including the presence of siderophages are additional pointers to the presence of endometriosis. However, tubal endometriosis and salpingitis isthmica nodosa may co-exist. In primary tubal

adenocarcinomas, which may also show invasive glands in the muscular layer, the glands will have a malignant morphology.^[2,3,6]

Anatomical effects of tubal sterilization depend upon the type of surgery, the location and extent of tissue excision and the time between surgery and examination. In practice, however, the pathologist sees tubes removed many years after sterilization. Since the fallopian tube is not sampled extensively during routine processing of hysterectomy specimens, there are chances that such variations in the morphology of the fallopian tube may be missed and hence under-reported. Hence, the pathologists should be aware of such morphological aberrations in the fallopian tube.

AS Ramaswamy, HK Manjunatha

Department of Pathology, P E S Institute of Medical Sciences and Research, Kuppam, India

Address for correspondence: Dr. AS Ramaswamy,
52, Vignesh Nilayam, 11th cross, T C Palya Extn,
K R Puram, Bangalore 560036, India.
E-mail: dr_asr@rediffmail.com

DOI: 10.4103/0974-2727.59708

REFERENCES

1. Lim S, Kim JY, Park K, Kim BR, Ahn G. Mullerianosis of the mesosalpinx: A case report. *Int J Gynecol Pathol* 2003;22:209-12.
2. Young RH, Clement PB, Scully RE. The fallopian tube and broad ligament. In: Mills SE, Carter D, Reuter VE, Greeson JK, Stoler MH, Oberman HA, editors. *Sternberg's diagnostic surgical pathology*. 4th ed. Philadelphia: Lippincott Williams and Wilkins; 2004. p. 2657-8.
3. Robboy SJ, Anderson MC, Russell P, editors. *Pathology of the female reproductive tract*. London: Churchill Livingstone; 2002. p. 430.
4. Fortier KJ, Haney AF. The pathologic spectrum of uterotubal junction obstruction. *Obstet Gynecol* 1985;65:93-8.
5. Stock RJ. Postsalpingectomy endometriosis: A reassessment. *Obstet Gynecol* 1982;60:560-70.
6. Rosai J, editor. *Rosai and Ackerman's surgical pathology*. 9th ed. St Louis: Mosby; 2004. p. 1640.
7. Sampson JA. Endometriosis following salpingectomy. *Am J Obstet Gynecol* 1928;16:461-99.
8. Sampson JA. Post salpingectomy endometriosis (endosalpingiosis). *Am J Obstet Gynecol* 1930;20:443-80.
9. Sampson JA. Pathogenesis of post salpingectomy endometriosis in laparotomy scars. *Am J Obstet Gynecol* 1945;50:597-620.
10. Stock RJ. Histopathologic changes in fallopian tubes subsequent to sterilisation procedures. *Int J Gynecol Pathol* 1983;2:13-27.